

Geotech for BLM-FHWA Red Rock Canyon NCA Scenic Loop Drive Improvement Project

Chapter 1: Introduction

Identifying Information:

Title, EA number, and type of project:

Geotech for U.S. Bureau of Land Management (BLM) - Federal Highway Administration Central Federal Lands Highway Division (FHWA-CFLHD) Red Rock Canyon National Conservation Area (NCA) Scenic Loop Drive Improvement Project.

DOI-BLM-NV-S020-2013-0013-EA

Environmental Assessment Prepared: 2/14/2014

Location of Proposed Action:

Red Rock Canyon NCA
Las Vegas, Nevada

Mount Diablo Prime Meridian
T20S. R58E. Sec 33-35
T21S. R58E. Sec 1-4, 10, 12, 14, 15, 22, 23

Name and Location of Preparing Office:

Red Rock/Sloan Field Office
4701 N Torrey Pines Drive
Las Vegas, NV 89130

Purpose and Need for Action:

The geotechnical investigation is being done independently but in support of two larger projects; the Low Water Crossing Replacement Project and the Scenic Loop Drive and Parking Project, both of which are located along the Scenic Loop Drive and will be analyzed as part of future NEPA documentation. At this time it has yet to be determined if the Low Water Crossing Replacement Project and the Scenic Loop Drive and Parking Project would be analyzed separately or combined into a single project.

As part of developing the preliminary design for these projects, a geotechnical investigation consisting of borings and a seismic survey is needed to support the geotechnical analysis and recommendations. There is no existing geotechnical information from construction of the original Scenic Loop Drive.

The purpose of the project is to analyze the geotechnical characteristics in the project area which would be used in providing bridge foundation/support selection and pavement recommendations for the Low Water Crossing Replacement Project and the Scenic Loop Drive and Parking Project.

The BLM's decision to be made is to approve or not approve drilling and seismic survey activities in support of the geotechnical analysis.

Scoping, Public Involvement and Issues:

Internal scoping was performed to identify potential issues present with the Proposed Action. Issues identified were specific to migratory birds and threatened and endangered (T&E) animal species. Informal public outreach was performed by presenting the project at a Red Rock NCA Public Open House. Upon signature, the EA will be uploaded to the NEPA register where the public may view it.

Chapter 2: Proposed Action and Alternatives

Description of the Proposed Action:

The geotechnical investigation is being done independently but in support of two larger projects; the Low Water Crossing Replacement Project and the Scenic Loop Drive and Parking Project, both of which are located along the Scenic Loop Drive.

The geotechnical investigation involves drilling of approximately 39 pavement borings and 9 bridge borings. A geophysical seismic survey would also be conducted. The project location is shown in Figure 1, and the proposed boring locations are shown in Figures 2 and 3. Exact locations and numbers of borings may be revised based on conditions encountered at the project site.

The geotechnical drill rigs to be used for the subsurface exploration typically involve a truck rig and track mounted drill rig. Both types of drill rigs are planned for use in this project. The truck rig would be used for all pavement borings as well as bridge boring locations easily accessible from the roadway. The track rig would be used where it is not feasible for the truck rig to access the desired drilling location (borings SW-B01 and SW-B06, see Figures 2 and 3). Pavement borings would be drilled using 4-inch diameter solid-stem auger techniques to depths of 5 to 10 feet. Bridge borings would be completed using 8-inch diameter hollow stem auger techniques and advanced to depths ranging from 15 to 75 feet. Soil samples would be obtained at intervals determined by the drilling crew. All borings would be immediately backfilled with native material following completion of the bore. In addition, pavement borings would be patched with cold patch asphalt.

In addition to completing the borings, geophysical seismic surveys would also be completed. The survey would consist of P-wave Seismic Refraction Tomography (SRT) and Multichannel Analysis of Surface Waves (MASW). This investigation would help determine the potential for caliche deposits at the site. To complete the test, a sledgehammer is used to strike a metal plate placed on the ground surface to provide a vibration source. A string of geophones are laid across the ground surface to measure vibrations from the impact of the sledgehammer. Testing is typically completed by two individuals on foot. Heavy equipment is not required to complete testing.

It is anticipated that the geotechnical investigation would last approximately one week and be completed by March 1, 2014. Off road boring locations will be conducted during daytime hours. The remainder of the borings will be done at night to avoid impacting visitor access. No staging areas would be required.

The following environmental commitments and stipulations would be used to avoid or minimize impacts to resources as a result of the proposed project.

Air Resources

- Proposed action will comply with Clark County Air Quality regulations and obtain any necessary permits.

Cultural Resources

- In the event of a discovery the BLM Archaeologist will be notified.

Fuels/Fire Management

- The project will comply with all BLM fire restrictions in place at the Red Rock Canyon NCA.

Geology / Mineral Resources/Energy Production

- All mineral materials would be used on site during reclamation to backfill bore holes.

Hazardous Waste

- The contractor would immediately notify the BLM Authorized Officer of any release of a hazardous substance, toxic substance, or hazardous waste on or near the project area. As required by law, the contractor would have responsibility for and shall take all action(s) necessary to fully remediate and address the hazardous substance(s) on or emanating from the project area, in the event of a release of any size and/or quantity. In the event of a release of a hazardous substance, regardless of the quantity released, as a result of project operations, the contractor must comply with all applicable, federal, state and local laws, regulations and BLM policy, including reporting requirements, when handling, reporting, containing, cleaning, removing and disposal of a released substance(s).

Invasive Species/ Noxious Weeds

- Disturbance caused by the proposed action would be restored upon completion. Vehicles and equipment would be cleaned of mud or plant parts (especially undercarriages) prior to entering BLM lands. No staging or driving of equipment through weed-infested areas would occur.

Land/Access/Recreation/Socioeconomics

- The Scenic Loop Drive would remain open during visitor hours. The majority of the work will occur at night, with only off road borings occurring during the daytime. A public open house was held to notify the public of the proposed project.
- The BLM Project Manager would be part of the communication loop for the traffic and recreation coordination between BLM Red Rock staff and drilling crew. Implementation of BLM approved traffic control measures, such as construction cones and construction lights, would help to direct recreation and visitor use away from the proposed project location as well as minimize traffic delays on the road.
- All areas of disturbance will be restored immediately after completion of the project.

Woodland/Forestry

- If cactus and yucca are unable to be avoided, they would be salvaged and replanted in the temporary use areas following completion of construction. Unless otherwise directed by the BLM botanist, all replanted cactus and yucca would be watered and otherwise maintained for a period of one year. To ensure successful salvage and transplant, all cactus and yucca would be salvaged using a contractor (or other approved by the BLM botanist) with at least three years experience salvaging and maintaining plant materials in the Mojave or Sonoran Deserts.

Vegetation

- The applicant and all field personnel would become familiar with how to identify the BLM sensitive plant species yellow two-tone beardtongue (*Penstemon bicolor ssp. Bicolor*) and its habitat (washes and roadsides) and would avoid direct impacts to individual plants and their habitat from activities to the extent practical.
- Equipment would use the same path for ingress and egress. Following completion of work the drive and crush tracks would be raked out to be less visible by the public.

Water Resources

- All borings would be reclaimed according to NRS and NAC regulations immediately after drilling. If groundwater is intercepted, holes would be reclaimed appropriately.

Wild Horses and Burros

- Individuals would be informed to not harass (feed, pet, chase, etc.) wild horses and burros if encountered on or near the geotechnical boring areas. If they do see any wild horses and burros, they would keep a safe distance; they are wild animals and can be unpredictable, especially during foaling and breeding season.

Disturbance

Drilling activities along the Scenic Loop Drive would be done within the paved surface of the existing roadway and shoulder, and would not result in any new disturbance. Drilling at the low water crossing location would result in approximately 0.2 acres of new temporary disturbance which would be reclaimed immediately following completion of each boring. Seismic testing would not result in additional disturbance.

Maintenance

No maintenance would be required upon completion of the Proposed Action.

Description of Alternatives Analyzed in Detail:

No Action

Under the No Action alternative, the Proposed Action would not take place. If no action is taken, the proposed road improvement and bridge designs would be put at risk without supporting geotechnical information.

Alternatives Considered but not Analyzed in Detail

In the absence of readily available existing geotechnical information for the project area, alternative methods for conducting the geotechnical investigation were also evaluated, including relying solely on

geophysical methods as well as alternative approaches to collecting soil samples. Standard methods include a combination of borings and geophysical methods for efficiency. In the absence of drilling, the design would have to account for the greater uncertainty associated with relying solely on geophysical methods. Without borings, soil samples along the alignment would need to be obtained with a shovel or hand auger. This approach would not allow for characterization of the thickness of the existing pavement section or sub-grade conditions beneath the roadway. In addition, the use of a backhoe to dig test pits was also considered. This method would require a much larger hole and result in excessive disturbance and was removed from further consideration.

Conformance

The EA is in conformance with the BLM Red Rock Canyon NCA Resource Management Plan (RMP) approved May 20, 2005. The Red Rock Canyon NCA RMP discusses road paving and improvements in multiple locations. In the Environmental Consequences section in which Paved Roads are discussed, it states "The proposed paving projects will benefit the recreating public by providing approximately 75 additional parking spaces around the Scenic Drive, reducing particulate matter in the air, providing smoother surfaces for highway design vehicles, and offering a shorter loop drive opportunity."

Chapter 3: Affected Environment

The table below summarizes the environmental attributes that have been reviewed, whether they would be affected by the Proposed Action, and rationale for that determination. Elements that would not be affected will not be discussed further. Resources that may be affected are analyzed in further detail in the Affected Environment and Environmental Effects sections of this document. Mitigation measures are detailed to ensure that project activities will not impact these resources.

Table 1. Affected Resources Form

Resource	Not Present	Present/Not Affected	Present May be Affected	Rationale for Determination
Air Resources		X		Proposed action will comply with Clark County Air Quality regulations and obtain any necessary permits.
Areas of Critical Environmental Concern	X			The proposed project area is not within an ACEC or any critical desert tortoise habitat on BLM managed lands.
BLM Natural Areas	X			There are no BLM natural areas in the project area.
Cultural Resources	X			Based on field inspection of the Scenic Loop Drive, no historic properties were found present within the Area of Potential Effect. No cultural resources would be affected.
Greenhouse Gas Emissions		X		Currently there are no emission limits for suspected Greenhouse Gas (GHG)

				emissions, and no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and would continue to be, several efforts to address GHG emissions from federal activities, including BLM authorized uses.
Environmental Justice	X			No minority or low-income communities are present or near the proposed project area.
Farmlands (Prime or Unique)	X			In this area there are no prime or unique farmlands.
Fish and Wildlife Excluding Federally Listed Species		X		<p>Wildlife species, including BLM sensitive species, in the general area include small mammals, rodents, birds and reptiles. The BLM sensitive species desert bighorn sheep, western burrowing owl, chuckwalla, banded Gila monster, Mojave shovel-nosed snake, desert glossy snake, and Mojave Desert sidewinder may be present in the general area. These species would be displaced as lands are disturbed within the project area. The primary direct impact of the proposed action on wildlife would be killing or maiming of ground dwelling animals during construction and the loss of habitat. Additional impacts associated with the mortality from vehicular traffic may also occur.</p> <p>Wildlife species in the general area are common and widely distributed throughout the area and the loss of some individuals and/or their habitat would have a negligible impact on populations of the species throughout the region. Impacts to BLM Sensitive Species are not anticipated to lead to further decline of the species range wide as the total disturbance for this project is relatively small.</p>
Floodplains		X		The proposed action includes minimal surface disturbance and would not impact floodplains.
Fuels/Fire Management		X		Compliance with BLM fire restrictions current at time of project

				implementation would mitigate any risks introduced by the proposed actions.
Geology / Mineral Resources/Energy Production		X		No mining claims are present in the project area.
Hydrologic Conditions		X		Project location and size would not impact hydrologic conditions of the area.
Invasive Species/Noxious Weeds		X		Disturbance caused by the proposed action is minimal and would be restored upon completion. Mitigation measures outlined in project description will reduce the risk of spreading or introducing noxious or invasive weeds.
Lands/Access		X		The majority of the proposed project will occur along existing roads and result in minimal new disturbance. Additionally, traffic control coordination measures described in the proposed action would likely reduce traffic delays.
Livestock Grazing	X			The proposed action area is not located in any authorized grazing allotments.
Migratory Birds			X	Carried forward for analysis.
Native American Religious Concerns	X			No Native American concerns were identified during the development of the Red Rock RMP, as well as other previous consultations.
Paleontology		X		Based on literature review and relevant maps no paleontological resources would be affected by the proposed project.
Rangeland Health Standards		X		Negative impacts to Rangeland Health are not expected as only minimal surface disturbance would occur.
Recreation		X		Negative impacts to Recreation are not expected since the majority of the work will occur at night and the proposed action would include coordination with BLM Project Manager and staff to reduce affects to recreation and visitor use.
Socio-Economics		X		The proposed project may incur minor,

				but temporary inconveniences to the public. A public open house was held to notify the public of the proposed project, no additional notification is needed as the majority of the project will occur at night or at off road locations during the day so as to not interfere with recreation.
Soils		X		Project location and size would not impact local soils.
Threatened, Endangered or Candidate Plant Species	X			There are no T&E or candidate plant species in the project area.
Threatened, Endangered or Candidate Animal Species			X	Carried forward for analysis.
Wastes (hazardous or solid)	X			While no hazardous waste concerns have been identified in the project area, proposed project description includes steps that would be taken if hazardous waste would occur during the proposed activity.
Water Resources/Quality (drinking/surface/ground)		X		Impacts to water resources are not expected as all borings would be reclaimed immediately after drilling. If groundwater is intercepted, holes would be reclaimed appropriately.
Wetlands/Riparian Zones	X			Proposed action does not occur in a wetland/riparian zone.
Wild and Scenic Rivers	X			No wild and scenic rivers are located in the proposed project area.
Wilderness/Wilderness Study Areas (WSA)	X			Proposed action is not within Wilderness or WSAs.
Woodland / Forestry		X		Only minimal surface disturbance would occur. Cactus and yucca may be present within the project impact area. Cactus and yucca are considered government property and are regulated under the Nevada BLM forestry program. To the extent practical, cacti and yucca would be avoided where possible. As described

				in the proposed action, minimization measures have been incorporated to minimize impacts.
Vegetation Excluding Federally Listed Species		X		Only minimal surface disturbance would occur. The following BLM sensitive plant species are known to occur within the project area: yellow two-tone beardtongue (<i>Penstemon bicolor ssp. Bicolor</i>). If yellow two-tone beardtongue is present, due to the small amount of disturbance, potential impacts to the species would be negligible. Temporary use areas would be required to be restored.
Visual Resources		X		The proposed action occurs in Visual Resource Management Class II. However, the disturbance is minimal and temporary as the area would be reclaimed quickly.
Wild Horses and Burros		X		The proposed project is located in the Red Rock Herd Management Area. There should be no impacts to the wild horses and burros, as the geotechnical boring would primarily remain on existing roads, trails, and parking areas with a minimal amount of new disturbance.
Lands with Wilderness Characteristics	X			There are no LWC designations.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et. seq.) protects migratory birds and their nests (nests with eggs or young. Under the Migratory Bird Treaty Act of 1918 (MBTA) and subsequent amendments (16 U.S.C. 703-711), it is unlawful to take, kill, or possess migratory birds. Numerous bird species travel through Nevada during spring and fall migrations. A list of the protected bird species can be found in 50 C.F.R. §10.13. The list of birds protected under this regulation is extensive and the project site has potential to support many of these species, including the BLM sensitive species the western burrowing owl (*Athene cunicularia*). Typically, the breeding season is when these species are most sensitive to disturbance, which generally occurs from February 15th through August 31st.

Threatened, Endangered or Candidate Animal Species

Threatened and Endangered (T&E) animal species are placed on a federal list by the U. S. Fish and Wildlife Service (USFWS) and receive protection under the Endangered Species Act of 1973, as amended. The only T&E species known to occur in the vicinity of the project area is the threatened desert tortoise (*Gopherus agassizii*). In the Mojave region, the desert tortoise occurs primarily on flats and bajadas with soils ranging from sand to sandy-gravel characterized by scattered shrubs and abundant inter-shrub space for herbaceous plant growth. They are also found on rocky terrain and slopes. Historical survey data indicates that the area surrounding the project area is low to moderate density tortoise habitat.

Chapter 4: Environmental Effects

Migratory Birds

Proposed Action

Migratory birds, including the BLM sensitive species the western burrowing owl (*Athene cunicularia*), may be present on the project area. Although there is potential to temporarily disturb migratory birds during construction activities, appropriate mitigation measures would be implemented to reduce the potential for displacement, harassment, or mortality. In addition, the proposed action would not result in a permanent increase in visitor or resource usage which could result in increased displacement, harassment, or mortality.

No Action

There would be no impacts to migratory birds under this alternative.

Threatened, Endangered or Candidate Animal Species

Proposed Action

This project would disturb less than 0.25 acres of tortoise habitat and is adjacent to undisturbed, contiguous habitat to the west, wherein potential corridors for tortoise entry exist. Since tortoise sign has been found in the vicinity (in previous surveys) and undisturbed habitat exists in the area, there is potential for tortoises to wander into the project area. If not noticed and avoided during construction, desert tortoises could be either injured or killed (by crushing) or harassed (by being moved out of harm's way). Section 7 Consultation for this project is covered under Red Rock Canyon NCA Programmatic biological opinion (File No. 1-5-04-F-526) contingent on compliance with the terms and conditions. Minimization measures in the above biological opinion contain measures to reduce potential impacts to desert tortoise. An informal consultation with Fish and Wildlife Service was conducted for this project and the Informal Consultation Form with mitigation measures is attached.

No Action

There would be no impacts to T&E species under this alternative.

Cumulative Effects

Cumulative impacts are defined in the BLM (1998) NEPA Handbook as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions.

Table 2. Past, Present, and Reasonably Foreseeable Future Planning and Projects

Factor	Action	Description	Area Affected
Past Planning	Red Rock Canyon National Conservation Area (NCA) Resource Management Plan (RMP) (2005)	RMP describes the appropriate uses and development of the conservation area as it provides management guidance and identifies land use decision to be implemented for management.	198,000 acres of public lands in the NCA in Clark County.
Current Planning	Transportation Feasibility Study	Analysis of current Core Area transportation infrastructure (Scenic Drive, trails trailheads, and parking) to find solutions to current transportation concerns and potential future issues due to increased visitor use.	The core area of the RRCNCA including the Scenic Drive, adjacent facilities, and transportation infrastructure.
Current Planning	Red Rock Canyon NCA RMP Amendment — Bolting in Wilderness	Analysis of the current bolting restrictions in RRCNCA wilderness to find solutions for safe climbing.	La Madre Mountain and Rainbow Mountain Wilderness Areas, approximately 27,879 acres and 20,311 acres of which (respectively) are located within RRCNCA..
Future Planning	Transportation and Travel Management Plan	Analysis, defining, and designating current and future roads, trails, signage, and information systems within the RRCNCA.	198,000 acres of public lands in the NCA in Clark County.
Past Project	Red Rock Scenic Drive Trail System (1995)	A 13-mile one-way paved road and 46 miles of paved and unpaved trails.	Located within the Core Area, the Red Rock Scenic Loop Drive is for visitors to drive, bike or hike. The remaining miles of trail system provides a network of access to other areas within the Core Area and beyond. The Red Rock Scenic Loop Drive Trail System is used for casual recreation use as well as for permitted activities. The system of trails continues to be maintained today.

Past Project	Cottonwood Valley Trail System (1996)	Approximately 60 miles of trails in the Cottonwood Valley area.	Located adjacent to the Core Area, the Cottonwood Valley Trail System provides a network of access to areas south of the Core Area. It is used for casual recreation use as well as for permitted activities. The system of trails continues to be maintained today.
Past Project	Visitor Center (April 2010)	Construction of new Visitor Center, Amphitheater and outdoor interpretive space. Old visitor center converted to BLM office facility.	Located within the Core Area, the newly constructed Visitor Center provides additional indoor and outdoor space for viewing and educational interpretation for enhanced visitor experience. The additional BLM office space created by the conversion of the former visitor center allows for more staff work space enabling for enhanced on-site support for RRCNCA. It is anticipated that visitation may increase as a result of the new infrastructure and additional staff support.
Past Project	SR-1 59 Corridor Trail Feasibility Study and Programmatic Environmental Assessment (PEA) (2010)	The PEA analyzed a network of trails intended to enhance connections from municipalities and the county into Red Rock Canyon. Inter-connectivity to trails in other municipalities and federal lands. The Zone 2 Trail is consistent with the planned systems trails that would make connections to non-motorized trails outside the NCA. In addition, the Zone 2 Trail would connect to widely used existing on-road bicycle undesignated routes.	Planning for this project included consultation with trail planners from Clark County to accomplish these means. This proposed trail alignment is intended to connect nodes within RRCNCA, including both ends of the Scenic Drive. In the next phase of design, the proposed trail segments will add connections to the campground, Spring Mountain Ranch State Park, and Bonnie Springs.
Past Project	Graffiti Removal from the Lost Creek Archaeological Site	Removal of graffiti from rock art panels.	Rock art panels located in Lost Creek Archeological Site in the Core Area of RRCNCA were vandalized in 2010. It is a popular destination for visitors. Removal of graffiti restored the cultural site and discouraged further vandalism from occurring.
Current	Special Recreation Permits for the Cottonwood Valley Trail	Environmental Assessment analyzing a number of Special Recreation Permits (SRPs) for issuance over a given period of time within the Cottonwood Valley Trail System of RRCNCA. This	Located adjacent to the Core Area, the Cottonwood Valley Trail System provides a network of access to areas south of the Core Area with various casual recreation use and permitted activities occurring there

Project	System	would be done by identifying and clarifying areas approved for multiple recreation uses to meet current and future SRP annual needs for an approximate five-year period (2012–2017).	regularly.
Past Project	Wastewater system upgrade to Red Rock Visitor Center	Red Rock Visitor Center upgrade of septic system.	Red Rock Visitor Center is located within the Core Area. Improvements to the wastewater system would accommodate the increased use and address human health and safety.
Current Project	Upgrades to Red Rock Fire Station	<p>Facility improvements include:</p> <ul style="list-style-type: none"> ● Upgrade of septic system; ● Installation of a well; and ● Installation of communication system. 	Red Rock Fire Station is located in the Core Area and improvements to the facility would accommodate use and address health and safety for on-site staff support who provide for protection of resources.
Current Project	Upgrades to existing Red Rock Campground	<p>Campground improvements include installation of:</p> <ul style="list-style-type: none"> ● Campsite parking stalls and parking lot; ● Well; ● Shade structures; ● Solar panels for electricity to the site; ● Concrete pads for picnic tables. 	Campground is located in the Core Area and improvements to the facility would result in improved visitor experience and potential increase in use.
Current Project	Red Rock Hazardous Fuels Reduction Project	Treatment using herbicide, mowing, blading or combination of these methods to remove invasive/noxious weeds and to create fuel breaks.	Fuels reduction treatments in and around the Core Area of RRCNCA would treat invasive/noxious weeds adjacent to roads, trails and in previously burned areas in order to create fuel breaks and limit potential spread fire in the event of a wildland fire. Native plant species would be avoided.
Future Project	State Route 159 Multi-Use Trail —	The 3.1-mile Zone 2 Trail roughly parallels SR-159 on the western side and extends from the from the Red Rock Visitor Center to	Located within the Core Area, the Zone 2 Trail is one segment of the five segment SR-159 Corridor Trail intended to connect to trails in other municipalities and federal lands. With the Environmental Assessment completed in early

	Zone 2	the Scenic Drive Exit Lot.	2012, the Zone 2 project is shelf-ready and pending funding for construction. This hiking/biking/equestrian riding trail would provide access into RRCNCA for casual recreation users as well as for permitted activities. It is anticipated that visitation may increase as a result of the completion of the trail.
Future Project	Low Water Crossing Replacement Project and the Scenic Loop Drive and Parking Project	Improvements to the 13-mile one-way paved Scenic Loop Road.	Located within the Core Area, the Red Rock Scenic Loop Drive is for visitors to drive, bike or hike. The Red Rock Scenic Loop Drive Trail System is used for casual recreation use as well as for permitted activities.
Current Project	Red Rock Visitor Center Well and Water Line Replacement Project.	Replacement of the tank and water line that provide water to the visitor center.	Red Rock Visitor Center is located within the Core Area. Improvements to the well and water line would improve functionality and service.

Migratory Birds

Proposed Action

The aforementioned past, present and reasonably foreseeable future activities, which include development and improvements of roads, trails, and infrastructure, may have the potential to impact migratory birds during construction periods and post construction visitor use. The primary direct effects would be similar to those for the Proposed Action, including harassment, mortality, or displacement as a result of the loss and fragmentation of habitat. But with best management practice measures implemented during design and construction of projects within the Red Rock Canyon NCA, potential impacts are likely to be reduced. Additionally, the design and intent of most projects mentioned above are to encourage visitors to use designated areas and avoid vegetation and habitat, and may result in long-term benefits to migratory birds.

Thus the Proposed Project, cumulatively the past, present and reasonably foreseeable future projects, may incur slight adverse impacts during construction phase, but may result in long-term beneficial effects to migratory birds.

No Action

No cumulative impacts would occur under the No Action alternative.

Threatened, Endangered or Candidate Animal Species

Proposed Action

The aforementioned past, present and reasonably foreseeable future activities, which include development and improvements of roads, trails, and infrastructure, may have the potential to impact T&E animal species during construction periods and post construction visitor use. The primary direct effects on wildlife would be similar to those for the Proposed Action, including harassment, mortality, or displacement as a result of the loss and fragmentation of habitat. But with best management practice measures implemented during design and construction of projects within the Red Rock Canyon NCA, potential impacts are likely to be reduced. Additionally, the design and intent of most projects mentioned above are to encourage visitors to use designated areas and avoid vegetation and habitat, and may result in long-term benefits to T&E animal species.

Thus the Proposed Project, cumulatively the past, present and reasonably foreseeable future projects, may incur slight adverse impacts during construction phase, but may result in long-term beneficial effects to T&E animal species.

No Action

No cumulative impacts would occur under the No Action alternative.

Mitigation Measures:

Migratory Birds

- To prevent undue harm, habitat-altering projects or portions of projects should be scheduled outside bird breeding season. In upland desert habitats and ephemeral washes containing upland species, the season generally occurs between February 15th and August 1st.
- If a project that may alter any breeding habitat has to occur during the breeding season, then a qualified biologist must survey the area for nests prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting in vegetation. If any active nests (containing eggs or young) are found, an appropriately-sized buffer area must be avoided until the young birds fledge. As the above dates are a general guideline, if active nest are observed outside this range they are to be avoided as described above.

T&E Animal Species

- Speed limit: Within Clark County, the speed limit is 35 miles-per-hour on the Scenic Loop Drive; this speed will be established for all activities at all times unless otherwise designated.
- Vehicles: All project/event-related individuals shall check underneath stationary vehicles before moving them.
- Vehicle traffic: Shall be restricted to the Scenic Loop Drive, unless otherwise authorized by BLM and the Service.
- Litter-control: Will be implemented and enforced by the project proponent or BLM. Trash containers shall remain covered, must be raven-proof, and emptied frequently enough to prevent overflow of materials. Trash, litter, project debris, etc. shall be transferred to a designated solid waste disposal facility. Vehicles hauling trash must be secured to prevent litter from blowing out along the road.
- Tortoise mortality/injury: BLM wildlife staff (702/515-5000) and the Service (702/515-5230) must be notified of any desert tortoise death or injury due to the project implementation by close of business on the following work day. In addition, the Service's Division of Law Enforcement shall be notified in accordance with the reporting requirements of this biological opinion.
- Tortoise activity: The period of greatest tortoise activity is generally defined as March 1 – Oct 31. However, unseasonably warm weather and/or precipitation outside this period may result in tortoise activity, particularly by hatchling and juvenile tortoise, and thus warrant adherence to requirements established for periods of greater activity. Similarly, BLM may determine that additional measures are appropriate for projects planned for the end or beginning of either period if conditions are suitable for desert tortoises to be active. Geotech investigation will only occur during the non-active season for tortoise (November through February).
- Education Program: A BLM/Service-approved biologist (as defined below) shall present a tortoise education program to all foremen, workers, permittees and other employees or participants involved on projects covered under this opinion. The program will consist of either a presentation or fact sheet as determined by project level consultation between BLM and the

Service. The program or fact sheet will include information on the life history of the desert tortoise, legal protection for desert tortoises, penalties for violations of Federal and State laws, general tortoise activity patterns, reporting requirements, measures to protect tortoises, terms and conditions of the biological opinion, and personal measures employees can take to promote the conservation of desert tortoises. The definition of "take" will also be explained. Workers and project associates will be encouraged to carpool to and from the project sites. Specific and detailed instructions will be provided on the proper techniques to capture and move tortoises which appear onsite if appropriate, in accordance with Service-approved protocol. Currently, the Service-approved protocol is Desert Tortoise Council 1994, revised 1999.

- Tortoise in harm's way: If a tortoise is found within the project/activity site in harm's way, all potentially harmful activity shall cease until the tortoise moves or is moved out of harm's way by an authorized biologist. If a desert tortoise is in imminent danger, the tortoise shall be moved out of harm's way and on to adjacent BLM land, using techniques described in the tortoise education program.
- Moving tortoises: Tortoises that are moved offsite and released into undisturbed habitat on public land, must be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with the tortoise handling protocol. Tortoises encountered shall be treated in a manner consistent with the appropriate measures in this biological opinion.
- Permits: All appropriate State and Federal permits, including NDOW and Service permits for handling desert tortoises or their parts, must be acquired by the tortoise biologists or other personnel before project initiation and prior to handling any desert tortoise or their parts, or conducting any activity requiring a permit.
- Project oversight: A BLM representative(s) shall be designated who will be responsible for overseeing compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion. The designated representative shall provide coordination among the permittee, project proponent, BLM, and the Service.
- Desert tortoise burrows: Will be avoided whenever possible; if not, the burrow will be cleared in accordance with the measures set forth in this biological opinion.
- Heat stress: Desert tortoises encountered experiencing heat stress will be placed in a tub, by an authorized tortoise biologist, with one inch of 76-90°F water for at least 20 minutes or until heat stress symptoms are no longer evident.
- Reporting: The project proponent, permittee, or project lead if an internal action, must submit a document to BLM wildlife biologist within 30 days of completion of the project showing the number of acres disturbed, remuneration fees paid, and number of tortoises observed or taken, which includes capture and displacement, killed, injured, or harassed by other means, during implementation of programmatic actions.
- Project boundaries: Project activity areas will be clearly marked or flagged at the outer boundaries before the onset of construction. All activities shall be confined to designated areas. When new access routes have been identified for development, routes will be flagged by the tortoise biologist prior to surface disturbance.

- **Fees:** Prior to issuance of authorization, and prior to any surface-disturbing activity associated with the proposed project, the project proponent shall pay a remuneration fee of \$810 for each acre of surface disturbance, if paid prior to March 1, 2010. This rate will be indexed annually for inflation based on the Bureau of Labor Statistics Consumer Price index for All Urban Consumers (CPI-U). Information on the CPI-U can be found on the internet at <http://stats.bls.gov/news.release/cpi.nws.htm>. An exception is made if the disturbance for the project is less than 0.25 acre of disturbance or for activities that result in a long term benefit for the species (e.g., trail realignment to minimize habitat impacts). Less than 0.25 acres of disturbance are within tortoise habitat; therefore, fees are not required.

Chapter 5: Environmental Effects

Table 3. List of Persons, Organizations, and Agencies Consulted

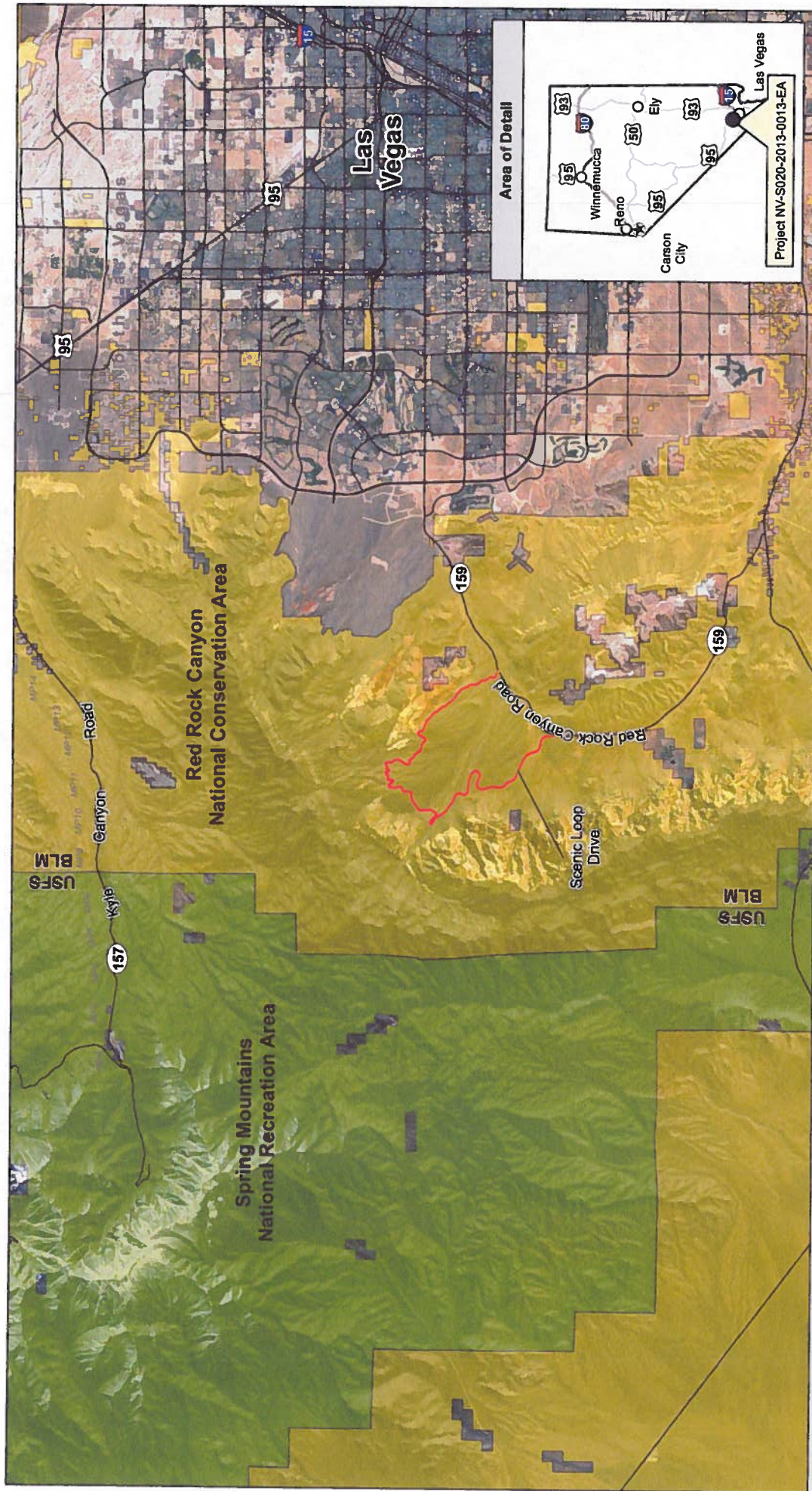
Name	Purpose & Authorities for Consultation or Coordination	Findings and Conclusions
U.S. Fish and Wildlife Service	Informal Section 7 consultation was completed concerning potential impacts to desert tortoise.	Comply with mitigation measures included in this EA.

Chapter 6: List of Preparers

Table 4. List of Preparers

Name	Title	Responsible for the Following Section(s) of this document
Lisa Christianson	Air Resource Specialist	Air Resources/ Greenhouse Gas Emissions/ Wastes (hazardous or solid)
Carla Wise	Biologist	Areas of Critical Environmental Concern/ Fish and Wildlife Excluding Federally Listed Species/ Migratory Birds/ Threatened, Endangered or Candidate Animal Species
Sendi Kalcic	Wilderness Specialist	BLM Natural Areas/ Wilderness/WSA/ Lands with Wilderness Characteristics
Mark Boatwright	Archeologist	Cultural Resources/ Native American Religious Concerns/ Paleontology
Susan Farkas	Planning and Environmental Coordinator	Environmental Justice/ Socio-Economics
Boris Poff	Hydrologist	Floodplains/ Hydrologic Conditions/ Soils/ Water Resources/Quality (drinking/surface/ground)/ Wetlands/Riparian Zones
Lauren Brown	Weeds Management Specialist	Fuels/Fire Management/ Invasive Species/Noxious Weeds

Evan Allen	Geologist	Geology / Mineral Resources/Energy Production
Kerri-Anne Thorpe	Realty Specialist	Lands/Access
Katie Kleinick	Natural Resource Specialist	Livestock Grazing/ Rangeland Health Standards/ Threatened, Endangered or Candidate Plant Species/ Vegetation Excluding Federally Listed Species/ Woodland / Forestry
Nick Walendziak	Recreation Specialist	Recreation
Brenda Warner	Visual Resource Specialist	Visual Resources
Krystal Johnson	Wild Horse and Burro Specialist	Wild Horses and Burros



- Project Location
- BLM
- USFS
- Private Land

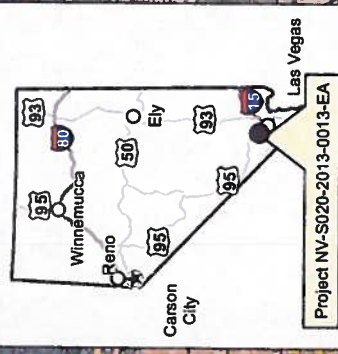


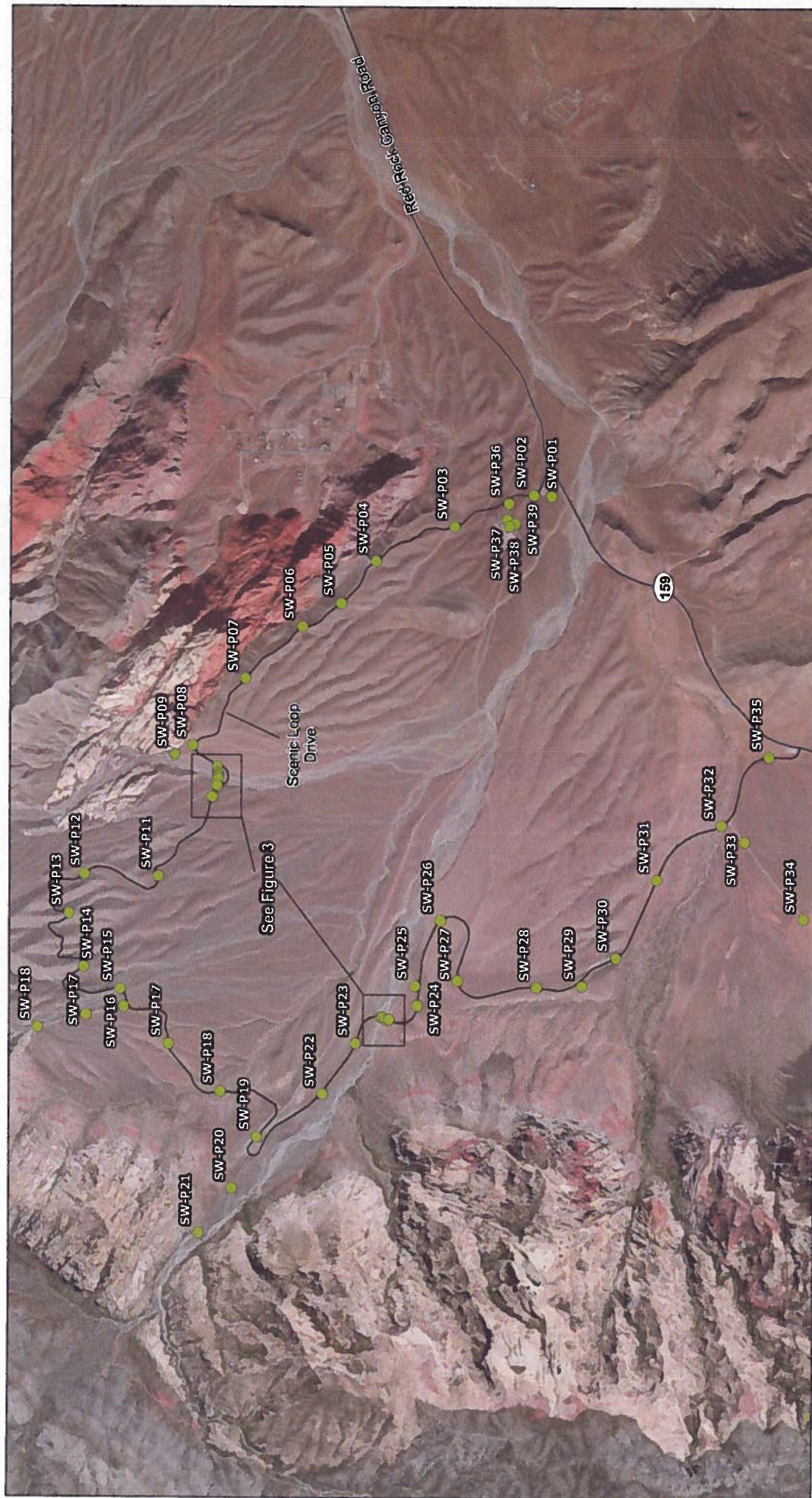
IMAGE SOURCE: ESRI WORLD TOPOGRAPHIC MAP
DATA SOURCE: NEVADA BLM 2/21/2012

Figure 1 Project Location

Geotech for BLM-FHWA Red Rock Canyon
NCA Scenic Drive Road Improvement Project
DOI-BLM-NV-S020-2013-0013-EA
Clark County, Nevada
Data Date: January 21, 2014

Area of Detail





● Boring Location

N
 0 2,000 4,000
 Feet
 IMAGE SOURCE: ESRI WORLD TOPOGRAPHIC MAP
 DATA SOURCE: NEVADA BLM 2/21/2012

Figure 2
Geotech Boring Locations
 Geotech for BLM-FHWA Red Rock Canyon
 NCA Scenic Drive Road Improvement Project
 DOI-BLM-NV-S020-2013-0013-EA
 Clark County, Nevada
 Data Date: January 21, 2014

